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The EASTERN
TENT CATERPILLAR

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THE EASTERN TENT CATERPILLAR

By F. M. WADLEY, *associate entomologist, Division of Fruit Insect Investigations,
Bureau of Entomology and Plant Quarantine*

The conspicuous, unsightly nests or tents of the eastern tent caterpillar (*Malacosoma americana* (F.)), sometimes called the apple-tree tent caterpillar, are often seen in springtime on roadside trees or in neglected orchards (see cover illustration). The tent is composed of layers of silky web spun by a group of caterpillars, which use the nest as a sort of apartment house.

The species is found all over the United States east of the Rocky Mountains and in limited localities in California, but is most prevalent in the Northeastern States. In the Rocky Mountains and farther west very similar species are found. The eastern tent caterpillar is native to this country, and there are records of outbreaks as far back as 1646. Sometimes the caterpillars become extremely abundant and troublesome for several years in succession, afterwards subsiding again to small numbers.

Trees Attacked

Wild cherry trees are the favorite hosts and are probably the starting points for many outbreaks. The apple seems to come next in favor, and is often attacked. Other plants, such as plum, peach, pear, rose, hawthorn, and various shade and forest trees are occasionally infested.

Economic Importance

The nests and caterpillars are disfiguring to roadside, orchard, or yard trees. When the caterpillars become abundant they often eat all the leaves on a tree, which weakens it considerably (fig. 1), although it seldom kills it outright. Serious annoyance is also caused by the caterpillars when they are crawling around in search of more food or a place to spin their cocoons.

Life History and Habits

The larvae, or caterpillars, hatch early in the spring, about the time the first leaves are opening, from eggs (fig. 2, A) that have passed the winter on twigs. The little caterpillars keep together and spin threads of silken web wherever they go. After feeding for about 2 days they begin their tent in a nearby crotch (cover illustration). Sometimes groups from two or more egg masses will join forces. As the caterpillars grow, the tent is enlarged and comes to consist of several layers of silk. In bad weather the caterpillars are usually in this shelter between the layers. In good weather they go out several



FIGURE 1.—Wild cherry tree with nests of tent caterpillars that have devoured practically all the leaves.

times a day to feed on leaves, still stringing silk wherever they go. Feeding is most active in May in the latitude of New York. The caterpillars become full-grown about 6 weeks after hatching (fig. 2, *B*), and are then nearly 2 inches long, black, sparsely hairy, with some white and blue markings, including a white stripe along the middle of the back. If the food on the tree becomes exhausted, they leave the nest and wander in various directions in search of food.

When mature, the caterpillars desert the colony, if they have not already done so, and form cocoons on the bark of trees, on fences, brush, weeds, or sides of buildings, or among dead leaves or debris on the ground. The whitish-yellow cocoon is about an inch long, with a loosely constructed outer layer and a tough, parchmentlike lining. Within this cocoon the larva shrinks somewhat and transforms to a pupa. This is the resting stage (fig. 2, *C*).

Early in the summer, after about 3 weeks in the cocoons, the reddish-brown moths (fig. 2, *D*) appear and deposit eggs in bands around the twigs. The eggs are cemented together and covered by a foamy secretion which on drying becomes a firm, brown covering appearing something like an enlargement of the twig (fig. 2, *A*). Each mass contains, as a rule, about 200 eggs. During the summer the larvae develop within the eggs, but hatching does not occur until the next spring.

Thus there is only one generation a year, with larvae present late in the spring, cocoons and moths early in the summer, and only eggs

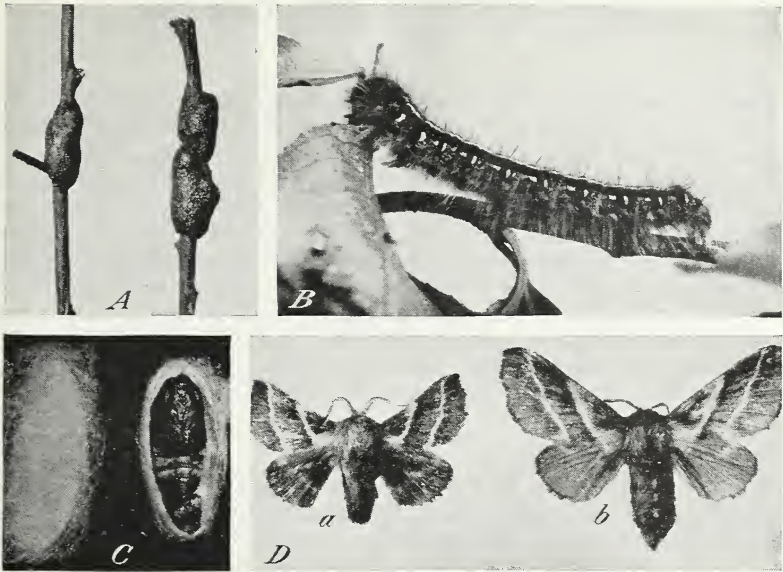


FIGURE 2.—Life stages of eastern tent caterpillar: *A*, Egg masses on twigs, about half natural size; *B*, full-grown larva or caterpillar, about natural size; *C*, cocoons, one opened to show pupal or resting stage, about natural size; *D*, adult moths (*a*, male; *b*, female), about natural size.

present the rest of the year. There is no feeding or other injury after the caterpillars mature early in the summer, as no more appear until the next spring.

Natural Checks

A number of enemies attack the eastern tent caterpillar. The larvae are preyed upon by ground beetles and predacious sucking bugs, as well as by toads and certain birds. Several kinds of small wasplike insects develop as parasites in the eggs, larvae, or pupae of the tent caterpillar. Many caterpillars die of disease, and sometimes unfavorable weather appears to be responsible for a sudden reduction of the pest to insignificant numbers.

Insects Sometimes Mistaken for the Eastern Tent Caterpillar

The forest tent caterpillar (*Malacosoma disstria* Hbn.) has a life history and an appearance somewhat similar to those of the eastern tent caterpillar, but it has along its back a row of cream-white spots instead of a stripe. This species, however, does not form a web. The larvae are found in groups, and more often on forest trees than on fruit trees.

The fall webworm (*Hyphantria cunea* (Drury)) forms a nest something like that of the eastern tent caterpillar. It can be distinguished from the tent caterpillar because its nest is at the tip of a branch instead of at the crotch, because it occurs from midsummer to fall, and because the caterpillars are smaller and more densely hairy. The fall webworm attacks most of the trees fed upon by the eastern tent caterpillar as well as a great variety of others.

Control of the Eastern Tent Caterpillar

Spraying

The tent caterpillars can be killed by a spray made up in the proportion of 3 pounds of lead arsenate to 100 gallons of water (4 to 5 rounded teaspoonfuls per gallon), with 3 to 6 pounds of hydrated lime (4 to 8 teaspoonfuls per gallon) to prevent foliage injury. The spray should be applied when the caterpillars are small, for then they are more readily killed by the poison, and before their feeding has become extensive. The poison will remain on the leaves longer if 1½ pints of linseed oil or fish oil is added to each 100 gallons of spray (2 teaspoonfuls per gallon), but this mixture must be kept well stirred during the spraying. Commercial orchards are rarely infested, since the regular early-season lead arsenate sprays for the codling moth and other chewing insects get rid of the tent caterpillars.

Hand Methods

On one or a few trees where sprays would not otherwise be applied, the tent caterpillar can be easily controlled by hand methods. So many of the insects are concentrated in a few groups that large numbers can be destroyed with only a little work. The most important hand method is destruction of the nests of caterpillars, which are easy to find. The nest may be torn out by hand, or with a brush or pole, and crushed on the ground, any larvae left crawling around the tree being also crushed. Sometimes the nests are singed with a torch of oily rags tied on a pole, but care should be taken to avoid injuring the tree. The nests should be destroyed as soon as they are seen, before the larvae have fed much. The egg masses on twigs can be collected by cutting off the twigs and destroying them in winter, with good results.

Removal of Wild Cherry Trees

The wild cherry trees sustain the eastern tent caterpillar and furnish a stock of moths, some of which scatter and deposit eggs on more useful trees. If these wild cherries, which have very little value, can be destroyed, the tent caterpillars will probably be much reduced in numbers. The wild cherry should especially be kept down in the vicinity of orchards.

